

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (canceled)

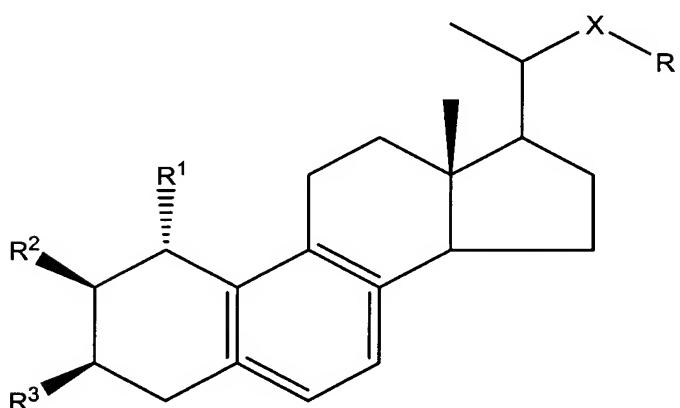
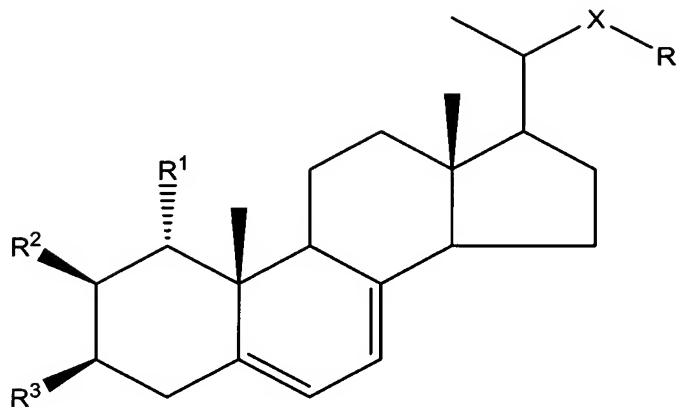
Claim 11 (currently amended): A process for preparing a vitamin D derivative, comprising:

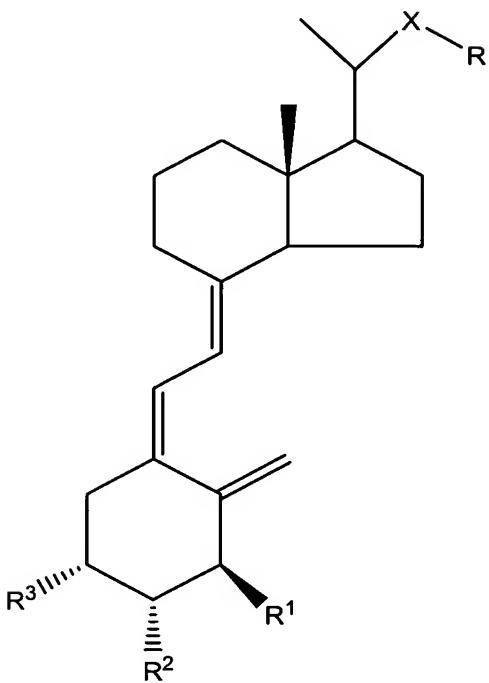
providing [[using]] an ultraviolet irradiation apparatus for photochemical reactions, which comprises an ultraviolet radiation-emitting lamp, an optical system on which light from the ultraviolet radiation-emitting lamp is struck[[,]] and which emits ultraviolet rays having a specific wavelength, and a quartz rod on which the ultraviolet rays having the specific wavelength from the optical system are struck[[,]];

irradiating a solution of a provitamin D derivative with the ultraviolet rays having the specific wavelength emitted from the quartz rod of the ultraviolet irradiation apparatus to cause a photochemical reaction to the provitamin D derivative solution, thereby forming a previtamin D derivative; and

subjecting the previtamin D derivative to a thermal isomerization reaction to prepare the vitamin D derivative.

Claim 12 (currently amended): The process according to Claim 11 ~~for preparing the vitamin D derivative~~, wherein the provitamin D derivative is a compound represented by the following general formula 1, the previtamin D derivative is a compound represented by the following general formula 2, and the vitamin D derivative is a compound represented by the following general formula 3[[.]],





General Formula 3

wherein R¹ and R³ individually [[mean]] is a hydrogen atom or a hydroxyl group which may have a protecting group, R² ~~denotes~~ is a hydrogen atom, a hydroxyl group which has a protecting group, a lower alkoxy group having 1 to 10 carbon atoms which is substituted or a lower alkyl group having 1 to 10 carbon atoms which may be substituted, R is a hydrogen atom or a lower alkyl group having 1 to 10 carbon atoms which may be substituted, and X represents -O-CH₂-, -S-CH₂-, -CH₂-CH₂-, -CH=CH- or -N-(R⁴)-CH₂-, in which R⁴ [[means]] is a hydrogen atom or a lower alkyl group having 1 to 10 carbon atoms which may be substituted.

Claim 13 (currently amended): The [[A]] process for preparing a vitamin D derivative according to Claim 12, wherein the irradiation comprises comprising irradiating a solution of [[a]] the provitamin D derivative represented by the general formula 1 according to Claim 12 with the ultraviolet rays having a specific wavelength emitted from the ultraviolet irradiation apparatus for photochemical reactions according to Claim 11 to cause a

photochemical reaction of the previtamin provitamin D derivative solution, thereby forming
[[a]] the previtamin D derivative represented by the general formula 2 according to Claim 12.

Claim 14 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R³ is a hydroxyl group, and X is -O-CH₂-.

Claim 15 (original): The preparation process according to Claim 14, wherein in the general formulae 1, 2 and 3, R¹ is a hydroxyl group.

Claim 16 (original): The preparation process according to Claim 15, wherein in the general formulae 1, 2 and 3, R² is a hydrogen atom.

Claim 17 (original): The preparation process according to Claim 16, wherein in the general formulae 1, 2 and 3, R is -CH₂-C(CH₃)₂OH.

Claim 18 (original): The preparation process according to Claim 16, wherein in the general formulae 1, 2 and 3, R is -CH₂-CH(CH₃)₂.

Claim 19 (original): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, R³ is a hydroxyl group, and X is -O-CH₂-.

Claim 20 (original): The preparation process according to Claim 19, wherein in the general formulae 1 and 2, R¹ is a hydroxyl group.

Claim 21 (original): The preparation process according to Claim 20, wherein in the general formulae 1 and 2, R² is a hydrogen atom.

Claim 22 (original): The preparation process according to Claim 21, wherein in the general formulae 1 and 2, R is -CH₂-C(CH₃)₂OH.

Claim 23 (currently amended): The preparation process according to Claim 21, wherein in the general formulae 1 and 2, R is -CH₂-CH(CH₃)₂ -CH₂-CH(CH₃)₂.

Claim 24 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R³ is a hydroxyl group, and X is -CH₂CH₂-.

Claim 25 (original): The preparation process according to Claim 24, wherein in the general formulae 1, 2 and 3, R¹ is a hydroxyl group.

Claim 26 (original): The preparation process according to Claim 25, wherein in the general formulae 1, 2 and 3, R² is a hydrogen atom.

Claim 27 (original): The preparation process according to Claim 25, wherein in the general formulae 1, 2 and 3, R² is a hydroxypropoxy group.

Claim 28 (original): The preparation process according to Claim 26, wherein in the general formulae 1, 2 and 3, R is –CH₂-C(CH₃)₂OH.

Claim 29 (original): The preparation process according to Claim 26, wherein in the general formulae 1, 2 and 3, R is –CH₂-CH(CH₃)₂.

Claim 30 (original): The preparation process according to Claim 27, wherein in the general formulae 1, 2 and 3, R is –CH₂-C(CH₃)₂OH.

Claim 31 (original): The preparation process according to Claim 27, wherein in the general formulae 1, 2 and 3, R is –CH₂CH(CH₃)₂.

Claim 32 (original): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, R³ is a hydroxyl group, and X is –CH₂-CH₂-.

Claim 33 (original): The preparation process according to Claim 32, wherein in the general formulae 1 and 2, R¹ is a hydroxyl group.

Claim 34 (original): The preparation process according to Claim 33, wherein in the general formulae 1 and 2, R² is a hydrogen atom.

Claim 35 (original): The preparation process according to Claim 33, wherein in the general formulae 1 and 2, R² is a hydroxypropoxy group.

Claim 36 (original): The preparation process according to Claim 34, wherein in the general formulae 1 and 2, R is -CH₂-C(CH₃)₂OH.

Claim 37 (original): The preparation process according to Claim 34, wherein in the general formulae 1 and 2, R is $-\text{CH}_2\text{-CH}(\text{CH}_3)_2$.

Claim 38 (original): The preparation process according to Claim 35, wherein in the general formulae 1 and 2, R is $-\text{CH}_2\text{-C}(\text{CH}_3)_2\text{OH}$.

Claim 39 (original): The preparation process according to Claim 35, wherein in the general formulae 1 and 2, R is $-\text{CH}_2\text{-CH}(\text{CH}_3)_2$.

Claim 40 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R^3 is a hydroxyl group, and X is $-\text{CH}=\text{CH}-$.

Claim 41 (original): The preparation process according to Claim 40, wherein in the general formulae 1, 2 and 3, R^1 is a hydroxyl group.

Claim 42 (original): The preparation process according to Claim 41, wherein in the general formulae 1, 2 and 3, R^2 is a hydrogen atom.

Claim 43 (original): The preparation process according to Claim 42, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2\text{-C}(\text{CH}_3)_2\text{OH}$.

Claim 44 (original): The preparation process according to Claim 42, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2\text{-CH}(\text{CH}_3)_2$.

Claim 45 (currently amended): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, $[\text{R}_3]\text{R}^3$ is a hydroxyl group, and X is $-\text{CH}=\text{CH}-$.

Claim 46 (original): The preparation process according to Claim 45, wherein in the general formulae 1 and 2, R^1 is a hydroxyl group.

Claim 47 (original): The preparation process according to Claim 46, wherein in the general formulae 1 and 2, R^2 is a hydrogen atom.

Claim 48 (original): The preparation process according to Claim 47, wherein in the general formulae 1 and 2, R is $-\text{CH}_2\text{-C}(\text{CH}_3)_2\text{OH}$.

Claim 49 (original): The preparation process according to Claim 47, wherein in the general formulae 1 and 2, R is $-\text{CH}_2\text{-CH}(\text{CH}_3)_2$.